



No.	CF-2013-12	1/2
Issue Date	14 May 2013	

AIRWORTHINESS DIRECTIVE

The following airworthiness directive (AD) may be applicable to an aircraft which our records indicate is registered in your name. ADs are issued pursuant to **Canadian Aviation Regulation (CAR) 521 Division X**. Pursuant to **CAR 605.84** and the further details of **CAR Standard 625, Appendix H**, the continuing airworthiness of a Canadian registered aircraft is contingent upon compliance with all applicable ADs. Failure to comply with the requirements of an AD may invalidate the flight authorization of the aircraft. Alternative means of compliance shall be applied for in accordance with **CAR 605.84** and the above-referenced **Standard**.

This AD has been issued by the Continuing Airworthiness Division (AARDG), National Aircraft Certification Branch, Transport Canada, Ottawa, telephone 613 952-4357.

Number: CF-2013-12

Subject: Rudder Control System – Cracking of the Pilot-Side Rudder Pedal Tubes

Effective: 30 May 2013

Applicability: Bombardier Inc. model CL-600-2B19 aeroplanes, serial numbers 7003 and subsequent.

Compliance: As indicated below, unless already accomplished.

Background: There have been two in-service reports of fracture of rudder pedal tubes installed on the pilot-side rudder bar assembly.

Laboratory examination of the fractured rudder pedal tubes found that in both cases, the fatigue cracks initiated at the aft taper pin holes where the connecting rod fitting is attached. Fatigue testing of the rudder pedal tubes confirmed that the fatigue cracking is due to loads induced during parking brake application. Therefore, only the rudder pedal tubes on the pilot's side are vulnerable to fatigue cracking as the parking brake is primarily applied by the pilot.

Loss of pilot rudder pedal input during flight would result in reduced yaw controllability of the aeroplane. Loss of pilot rudder pedal input during takeoff or landing may lead to a runway excursion.

This AD mandates initial and repetitive inspections of the pilot-side rudder pedal tubes, Part number (P/N) 600-90204-3, until the terminating action is accomplished.

Corrective Actions: **Part I – Initial Inspection**

- A. Perform a detailed visual inspection (DVI) or eddy current inspection of both pilot-side rudder pedal tubes in accordance with the Accomplishment Instructions in Part A of the Bombardier Service Bulletin (SB) 601R-27-162, Initial issue, dated 5 April 2013, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, in accordance with the following schedule:
1. For aeroplanes that have accumulated less than 20 000 total flight cycles as of the effective date of this AD, prior to reaching 23 000 total flight cycles;
 2. For aeroplanes that have accumulated 20 000 total flight cycles or more, but less than 25 000 total flight cycles as of the effective date of this AD, within 3000 flight cycles from the effective date of this AD, but not to exceed 26 300 total flight cycles;
 3. For aeroplanes that have accumulated 25 000 total flight cycles or more, but less than 30 000 total flight cycles as of the effective date of this AD, within 1300 flight cycles from the effective date of this AD, but not to exceed 30 800 total flight cycles;
 4. For aeroplanes that have accumulated 30 000 total flight cycles or more, but less than 33 000 total flight cycles as of the effective date of this AD, within 800 flight cycles from the effective date of this AD, but not to exceed 33 500 total flight cycles;

Pursuant to **CAR 202.51** the registered owner of a Canadian aircraft shall, within seven days, notify the Minister in writing of any change of his or her name or address.

To request a change of address, contact the **Civil Aviation Communications Centre (AARC)** at **Place de Ville, Ottawa, Ontario K1A 0N8**, or **1-800-305-2059**, or www.tc.gc.ca/civilaviation/communications/centre/address.asp

5. For aeroplanes that have accumulated 33 000 total flight cycles or more, but less than 37 000 total flight cycles as of the effective date of this AD, within 500 flight cycles from the effective date of this AD, but not to exceed 37 300 total flight cycles;
 6. For aeroplanes that have accumulated 37 000 total flight cycles or more as of the effective date of this AD, within 300 flight cycles from the effective date of this AD.
- B. If a crack is found around the aft tapered holes, before further flight, replace the rudder bar assembly in accordance with the Accomplishment Instructions in Part B of the above-mentioned SB.
 - C. If any other damage is found, contact the Bombardier Technical Help Desk for a Transport Canada approved repair and incorporate the repair before further flight. The approved repair must specifically reference this AD.
 - D. If no cracks or damage is found, repeat the inspection of the pilot-side rudder pedal tubes in accordance with Part II of this AD until the terminating action in Part III of this AD is accomplished.

Part II – Repetitive Inspections

- A. Perform a DVI or eddy current inspection of the pilot-side rudder pedal tubes in accordance with the Accomplishment Instructions in Part A of the above-mentioned SB, in accordance with the following schedule:
 1. Within 600 flight cycles from the previous DVI inspection; or
 2. Within 1000 flight cycles from the previous eddy current inspection.
- B. If a crack is found around the aft tapered holes, before further flight, replace the rudder bar assembly in accordance with the Accomplishment Instructions in Part B of the above-mentioned SB.
- C. If any other damage is found, contact the Bombardier Technical Help Desk for a Transport Canada approved repair and incorporate the repair before further flight. The approved repair must specifically reference this AD.
- D. If no cracks or damage is found, repeat the inspections of the pilot-side rudder pedal tubes in accordance with Part II of this AD until the terminating action in Part III of this AD is accomplished.

Part III – Terminating Action

Replacement of both pilot-side rudder bar assemblies in accordance with the Accomplishment Instructions in Part B of the above-mentioned SB constitutes terminating action for the inspections in Part I & II of this AD.

Authorization: For the Minister of Transport, Infrastructure and Communities,

ORIGINAL SIGNED BY

Derek Ferguson
Chief, Continuing Airworthiness

Contact: Robert Farinas, Continuing Airworthiness, Ottawa, telephone 613-952-4357, facsimile 613-996-9178 or e-mail AD-CN@tc.gc.ca or any Transport Canada Centre.